58. The second stage in the specific Decisional System

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Probabilidad Imposible: The second stage in the specific Decisional System,

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The second stage in any Artificial Intelligence, program or application is the replication stage, in which all the necessary human skills are replicated for the automation of any process. The first stage consists of a database or matrix, gathering all the information necessary in that process, whose automation is possible through the replication of all the human skills in the second stage. Later on, the third stage is the auto-replication stage for the auto-improvement or auto-enhancement of that Artificial Intelligence, program, or application itself. Any Artificial Intelligence, under the theory of Impossible Probability, instead of a replicant, must be an auto-replicant.

If in the Decisional System, the object is to, given a database of decisions, choose the most rational decisions without contradiction, the first stage necessarily must be the database of decisions, and once all the information for this process, decisions, is gathered in the database, the second stage consists of the replication of all the human skills necessary in order to decide what decisions are the most rational without contradiction.

In this post, I will develop what skills are necessary to replicate in the second stage of the specific Decisional System, which in turn is the second step in the third stage in the first phase for the construction of Specific Artificial Intelligences for Artificial Research by Deduction, such intelligences designed for specific science, discipline, or activity.

The way in which these skills are going to be replicated in the second stage of the specific Decisional System, as an experiment whose most successful results are going to be later put into practice in the first global Decisional System in the standardization process, is through the automation of all the necessary skills as a second stage for the design of mathematical projects based on those decisions stored in the database of decisions as first stage.

Once the mathematical projects are designed, the most rational decisions without contradiction are going to be chosen, to be sent to the third stage, where the most rational

decisions without contradiction are transformed into a range of instructions, to be sent to the database of instructions as the first stage for the specific Application System.

The way to decide through the mathematical projects what decisions are the most rational without contradiction is through the seven rational adjustments for normal decisions, and a quick rational check for quick decisions.

A quick decision is a routine decision or an extreme priority decision. A routine decision is a decision that has been made frequently, has a relative frequency, and has not shown any contradiction in the past with respect to any other mathematical project. An extreme priority decision is a decision to save more lives or damage than any other one already included in the mathematical projects.

Once a quick decision is arrived in the database of decisions, in the first stage of the specific Decisional System, it only has to pass a quick check, and afterwards must be mathematically projected, and transformed in the third stage into a range of instructions, to be implemented automatically.

When an extreme priority decision, after the quick rational check, passes to the second stage (the mathematical projects), once its mathematical projects are done, it is automatically transformed into a range of instructions, and implemented by the Application System. While, the six rational adjustments that take place in the second stage in the specific Decisional System, work to avoid any possible contradiction between the normal current decisions on, or routine decisions on, in the mathematical project, with respect to that extreme priority decision to be put into practice as quickly as possible without being checked by the seven rational adjustments.

At any time that an extreme priority decision is gathered in the first stage of the database in the specific Decisional System, neither the first rational adjustment in the first stage nor the following six rational adjustments in the second stage of the specific Decisional System are focused on that extreme priority decision.

Once the mathematical projects of that extreme priority decision start getting built, the focus of the six rational adjustments in the second stage is only on the adjustments of the rest of the normal decisions or routine decisions already included in the mathematical projects, in order to avoid contradictions between these ones and the

extreme priority decision: making all necessary adjustment on the decisions, normal or routine, already included, not in the new extreme priority decision which must be implemented as quick as possible; in order to save the most number of lives and damages.

All decision that is not quick decision is a normal decision, so a normal decision is either a decision with low frequency in the past, or showing some frequency had some contradictions with respect to other mathematical projects or a decision whose level of priority, according to the Impact of the Defect or the Effective Distribution, is not extreme.

For all normal decisions, the seven rational adjustments are compulsory, being the first one made in the first stage of the specific Decisional System, as was explained in the last post, "The first phase in the specific Decisional System". The following six rational adjustments are in the second stage, across the mathematical projects.

Regardless of what type of decision is any decision, quick or normal, all decisions must be projected mathematically in the second stage.

The only difference between quick decisions and normal decisions is the fact that, during the mathematical projection, while quick decisions do not need to pass the rational adjustments (after passing the quick rational check in the first stage), normal decisions have to pass, in addition to the first rational check in the first stage, all the six rational adjustments in the second stage.

The only reason to justify a possible rational adjustment on extreme priority decisions is because of the existence of more than one extreme priority currently on the mathematical projects. For instance, if there is a volcanic eruption in Iceland, and in order to save lives, there is more than one extreme priority decision at the same time on, at the same time that once an extreme decision has been transformed into a range of instructions, for instance, first decision extreme priority decision so as to send a helicopter to some small village of the island to save lives, and a second extreme priority decision to send another helicopter to rescue a group of hikers nearby that village; at the same time that, once any of these decisions has been transformed into a range of instructions, as just the second extreme decision arrives in the database of decisions, these decisions are going to be tracked simultaneously: in the specific matrix, the comprehensive model, and the comprehensive virtual and actual mathematical

projects. So, at any time that the matrix shows that due to the high risk of new volcanic explosions, rivers of lava, or rain of ashes, lava and rocks, the original route of these helicopters must be re-projected, in order to avoid a crash between both helicopters. Even being operations of extreme priority, any change in any decision on the routes of any of these helicopters should be compared automatically with the other helicopters.

The only reason to make, in addition to the quick rational check, rational adjustments on extreme priority decisions, is that, at the same time, there is at least another extreme priority decision on the mathematical project.

Having the mathematical project more than one extreme priority decision on, there must be rational adjustments between only the extreme priority decisions, and these adjustments between extreme priority decisions must be focused on adjustments only on the extreme priority decisions. Later, the rest of the normal decisions and routine decisions must be re-adjusted according to the adjustments made first on the extreme priority decisions.

Having more than one extreme priority decision in a specific Decisional System, the order to follow in rational adjustments is: firstly, adjustments between extreme priority decisions, secondly, to re-adjust the rest of normal decisions or routine decisions according to the changes in the extreme priority decisions.

Only it would be necessary to make rational adjustments in extreme priority decisions, if at the same time there is more than one extreme priority decision on, being adjustments only between these extreme priority decisions, and afterwards re-adjusting the rest of normal decisions or routine decisions to the changes made on the extreme priority decisions.

But if there is only one priority extreme decision, the priority decision does not need to pass any rational adjustment, with a quick rational check that should be sufficient for its approbation.

Once I have explained the procedures about how to catalogue decisions and when the rational adjustments are necessary, I will explain the seven mathematical projects, and the seven rational adjustments, ending up with some comments regarding “Probability

and Deduction" as a pack of ideas about how to link: deduction, mathematical models, and mathematical projects; as it was explained at the end of the last post "The first stage in the specific Decisional System".

Like the mathematical models in the Modelling System is the adaptation of the rational geometry to modern times, the mathematical projects in the Decisional System are going to be another adaptation.

If in the second stage of the Modelling System I developed seven mathematical models, in the second stage of the Decisional System, following the virtue or principle of harmony, I will develop seven analogue mathematical projects (as I explained in the post "the Decisional System"), with the only difference respect to the mathematical models, that mathematical projects, instead of being a virtual or actual replica from something real (mathematical models in the Modelling System), are going to be the virtual or actual project of a decision based on deductions upon something real.

The reason why I say that following the virtue or principle of harmony the seven mathematical projects are analogous to the seven mathematical models, is because their structure is rather similar, distinguishing between single and comprehensive, actual and virtual, evolution and prediction, mathematical projects, as I did with mathematical models, what is going to keep the virtue or principle of harmony active, so it would be possible:

- The relocation of a single project in the global model, or a single model in the global project-

- The contrastation/comparison of the global model and global project.

- The contrastation/comparison of the global prediction virtual model and the global prediction virtual project.

- The contrastation/ comparison of the global evolution virtual model and the global evolution virtual project.

These possibilities are going to facilitate is the distinction in the second stage of the Decisional System of two different periods: 1) first period starts the making process of mathematical projects in the second stage in the specific Decisional System independently from the mathematical models (in order to test how to make mathematical projects under this technology and test the rational adjustments and quick rational checks), 2) second period, once this technology has been tested in the first period, testing any element in the making process of mathematical projects and how rational adjustments and quick rational checks work, the second period consist of the projection of any mathematical project directly over the mathematical model made previously by the Modelling System. I will develop the two periods more extensively later.

The virtue or principle of harmony means that it is necessary to avoid any contradiction between databases and matrices, trying to always use the same criteria, make them compatible and comparable, and between models and projects, making them compatible and comparable.

To make different structures compatible and comparable means that at any time, any structure of one of them could be relocated to another different one if it has the same purpose or structure or shares the same criteria, and vice versa.

This process of harmonisation starts from the outset. In the first phase, what is going to make it easier is the standardisation process, because all the structures to standardise already share the same criteria in their inner organisation.

This process, making compatible and comparable similar structures in different intelligences, programs, and applications, will facilitate not only the standardization process, but the unification process, the formation of particular applications for particular programs, the integration process, and finally it will be possible the seventh phase in order to build the reason itself.

In order to start getting ready all these processes, not only do databases and matrices share the same criteria in their inner organization according to their different purpose, but this harmony must be kept between operations in the second stage of any intelligence, program, and application, and particularly between the

second stage in the Modelling System and the Decisional System, keeping the harmony between mathematical models and projects.

For that reason, the seven mathematical projects in the second stage of the specific Decisional System are:

- First mathematical project: the single virtual mathematical project, once a normal decision has passed the first rational adjustment in the database of decisions, or once a quick decision has passed a quick rational check in the database of decisions, the decision is projected.

- Second mathematical project: The comprehensive virtual mathematical project, once the single mathematical project has been projected, is added to the comprehensive virtual mathematical project, which comprehends all single mathematical projects of that specific science, discipline, or activity, of its Specific Artificial Intelligence for Artificial Research by Deduction, where the specific Decisional System is working on. The most challenging point in the comprehensive virtual mathematical project, as comprehension of all the single mathematical projects in that science, discipline, or activity, is how to interconnect related single mathematical projects. Like the challenge in the comprehensive virtual model is how to interconnect single models with each other, because we live in an interconnected world, the challenge now is how to interconnect single projects, in a world where any change in any project could mean lots of changes in other projects. Here takes place the second rational adjustment, making adjustments on normal and routine decisions at any time that a new normal decision is added, or at any time that an extreme priority decision is on.

- Third mathematical project: the comprehensive actual mathematical project, which consists of the synthesis between the comprehensive virtual mathematical project and the specific matrix, in order to track any possible contradiction between projects and the matrix, the third rational adjustment.

- Fourth mathematical project: the prediction virtual mathematical project, upon the comprehensive virtual and actual mathematical projects, and their respective adjustments, the virtual projection of possible conditions and situations of the current mathematical projects in the future, making any fourth rational adjustment if necessary.

- Fifth mathematical project: the evolution virtual mathematical project, the projection of every stage in the evolution from the current comprehensive virtual mathematical project to the prediction virtual mathematical project, making any fifth rational adjustment if necessary.

- Sixth mathematical project: the evolution actual mathematical project, as a synthesis of every stage in the evolution virtual mathematical project with the actual information from the specific matrix as long as every virtual projected stage is coming to the specific matrix, contrasting if the expected project is taking place for every stage in the matrix as it was projected, making any sixth rational adjustment in case of contradictions.

- Seven mathematical project: the prediction actual mathematical project, as a synthesis of the prediction virtual mathematical project and the matrix as long as the projected point in the future is coming, contrasting if the data in the specific matrix is according to the projected results, and in case of contradictions to make any seventh rational adjustment.

Although I have mentioned what rational adjustment is done in each mathematical project, later I will develop these rational adjustments, but firstly, I would like to comment on some examples of the implementation of the seven mathematical models in a real case.

The Specific Artificial Intelligence for Artificial Research by Deduction in a Bank is set up having some amount of funds available in total, some of them in cash for the ATM network or branches, some of them for loans and mortgages, insurances, deposits, etc.

According to the funds available for loans in the bank, the current price of the money in the market, and the risk for every customer according to his/her personal economic conditions, the interest in a loan can experiment with variations for every customer.

At any time that a client asks for a loan, the single virtual mathematical project of this loan is going to be based on: how long it will take the client to pay for it, how the loan is going to affect his/her current personal economic conditions, for instance debt capacity if in addition to this loan the client has a mortgage or any other financial product, which risk the bank takes on this loan, etc.

The single mathematical project is later integrated into the comprehensive virtual mathematical project, which comprehends all the current projects working on the bank, including all the overdrafts, credit cards, loans, mortgages, insurances, financial products, and funds, that the bank currently has contracted with all its clients, from the poorest to the richest.

At any time, the comprehensive virtual mathematical project must be contrasted with the specific matrix. What is the comprehensive actual mathematical project, comparing and contrasting that the virtual project for this bank is right in comparison from the real data in the specific matrix, which must include not only current information from the bank and its clients but information regarding, for instance, the stock exchange, the current rates of interest in main national or regional banks (the Bank of England, Central European Bank, Federal Reserve System...), the evolution of risk premiums in its own country and main markets, etc...

According to the comprehensive actual mathematical project, it is possible to make a projection about how is going to be the mathematical project for this bank at some point in the future, the prediction virtual mathematical project, setting up every stage in this evolution through the evolution virtual mathematical project.

As long as every projected stage is coming, every stage projected in the evolution virtual mathematical project is contrasted with the specific matrix, through the evolution actual mathematical project. Ending this process when the future predicted point is coming, with the contrastation of the prediction virtual mathematical project and the real data at that time in the specific matrix, which is the prediction actual mathematical project.

As long as the approved mathematical projects in the second stage in the Decisional System are set up and implemented by the Application System, producing changes in the matrix (in order to get the expected values in the prediction virtual mathematical project, and to minimize any contradiction with the specific matrix), there is a moment in which the prediction and evolution virtual and actual mathematical projects do not have practically significant differences in their particular projected object, respect to the prediction and evolution virtual and actual mathematical models.

The only differences between the prediction and evolution virtual and actual projects in the Decisional System, respect to the prediction and evolution virtual and actual models

in the Modelling System, are: 1) firstly in those aspects out of those objects of projection because any object not projected is not present in any project, so is a difference between models and projects, and 2) secondarily in those objects which not being directly object of projection but affected by changes in those objects of projection, any object not projected even having secondary effects by any projection, is also a cause of differences between prediction and evolution virtual and actual models in the Modelling System respect to prediction and evolution virtual and actual projects in the Decisional System.

If any project has a very negative impact as a secondary effect in any object not projected, if it is really a very negative impact, even not being included in the projection, if this impact is registered by the specific matrix, and included in the specific mathematical models in the specific Modelling System, when the specific Impact of the Defect has to assess all the impacts on the mathematical models, if this secondary effect is sufficiently negative, it will be prioritized by the specific Impact of the Defect. The decision to make regarding to this negative secondary effect, once it has been marked with some level of priority, is a decision to be made by artificial learning or solving mathematical problems. Afterwards, the decision will be stored in the specific database of decisions, projected, passing all the rational adjustments or a quick rational check, depending on its priority or frequency.

Not all objects in the specific matrix or the specific model must be included in any projection in the specific Decisional System. The projections in the specific Decisional System must only include those objects related to some decision on any project, and must not include any other object not related to any decision on.

Those objects not objects of projection are not present in any mathematical project, and for that reason, the models in the Modelling System are more comprehensive than the projects in the Decisional System.

While the models in the Modelling System try to make a mathematical representation of the entire world, the projects on the Decisional System only try to make a representation of those decisions approved.

But, as long as the projects in the Decisional System are based on objects present in the models in the Modelling System, any particular aspect of any project of any particular object projected on the prediction and evolution virtual and actual projects in the

Decisional System, is a particular aspect of that particular project of that particular object compatible and exchangeable with the corresponding aspect of this object on the prediction and evolution virtual and actual model in the Modelling System.

As long as there will be projections in the Decisional System compatible and exchangeable with models in the Modelling System, as long as both are more compatible, there will be a moment in which the mathematical projects to build in the second stage in the Decisional System, could be projects to be projected directly over the global model, drawing directly in the global model the corresponding mathematical projects in order to make all the necessary rational adjustments directly over the mathematical projects on the global model, up to the point to transform the global model itself in a project itself.

For that reason in the construction of the specific Decisional System in the first phase, there is a possibility to distinguish between two different periods:

- First period in the formation of the second stage in the specific Decisional System: corresponding to the design of all the mathematical projects in the second stage of the specific Decisional System, separately from the mathematical models in the specific Modelling System.

- Second period in the formation of the second stage in the specific Decisional System: when the design of the mathematical projects is sufficiently tested so as to start, the specific Decisional System, making the mathematical projects over the mathematical models built previously by the specific Modelling System.

In the first period of this second stage of the specific Decisional System, in which the foundations of the Global Artificial Intelligence are starting, the most important thing is to set up very solid first mathematical projects, to get very successful results. Once the technology to build solid mathematical projects is sufficiently tested, is possible in the second stage of the specific Decisional System to start making mathematical projects directly over the mathematical models designed previously in the second stage of the specific Modelling System.

As a starting point in the first period of this second stage, it is advisable to distinguish between mathematical models in the specific Modelling System, and mathematical projects in the specific Decisional System. So, the mathematical projects are going to be built separately from the mathematical models.

The most important reason for the distinction, in the first period, between mathematical models in the specific Modelling System, and mathematical projects in the specific Decisional System, is because any possible contradiction to fix in any rational check in mathematical models in the specific Modelling System, will be easier to fix if in mathematical models which consist of only mathematical models and nothing else.

In the same way, in the first period, any possible contradiction to fix in any rational adjustment, or quick rational check, in the specific Decisional System, will be easier to fix, if on the mathematical projects are only mathematical projects and nothing else.

As long as this technology is improved and enhanced during the first period, the possibility of synthesis between models and projects in the second period in the second stage of the specific Decisional System will be easier and real. But at the beginning, the first period is absolutely necessary, in order to test how rational checks in the specific Modelling System work, and how rational adjustment and quick rational checks in the specific Decisional System work.

The distinction between models in the specific Modelling System and projects in the specific Decisional System, in this first period, will allow a much better analysis of any possible contradiction, so as to make more solid decisions.

Once this technology is tested enough, the second period of the second stage of the specific Decisional System could start making, the Decisional System, the mathematical projects directly over the mathematical models built previously in the specific Modelling System.

The second stage in the specific Decisional System in this second period has not only to adjust or interconnect the mathematical projects between themselves, or in the actual projects to make adjustments according to changes in the specific matrix, because once in the second period, the mathematical projects are made by the

specific Decisional System directly over the mathematical models, previously made by the specific Modelling System, the rational adjustments to make by the specific Decisional System must include any additional rational adjustment necessary to adjust the mathematical projects to the current conditions on the mathematical models made previously by the specific Modelling System.

This work, adjusting projects to models, is not a responsibility for the specific Modelling System. The responsibility for the adjustment of any mathematical project to the current mathematical models is a responsibility for the specific Decisional System.

The way in which the second period of the second stage of the specific Decisional System can be set up is through two different moments:

- First moment in the second period in the second stage in the specific Decisional System: the mathematical models, in which the specific Decisional System will make the mathematical projects, are copies whose originals are still in the Modelling System. So, the Modelling System works directly over the original mathematical models, not having the original trace of any project yet.

- Second moment in the second period in the second stage in the specific Decisional System: the mathematical models in which the specific Decisional System is making the mathematical projects and the corresponding rational adjustments, are the same mathematical models in which the specific Modelling System is making the rational checks at the same time that the specific Modelling System is including any new single model from any new rational hypothesis added recently to the rational truth, once it has been deduced in the second stage in its Specific Artificial Intelligence for Artificial Research by Deduction in its specific science, discipline, or activity.

At the end of the second moment in the second period in the second stage of the specific Decisional System, as second step in the third stage in the first phase in its corresponding Specific Artificial Intelligence for Artificial Research by Deduction, in any science, discipline, or activity, the mathematical models made by the specific Modelling System are going to be the base for the mathematical projects made by the specific Decisional System, where the specific Decisional System is going to make the rational adjustments, rational adjustments not only for the adjustment of

mathematical projects in those aspects in which different mathematical projects could have contradictions, or not only for the adjustment of these mathematical projects and changes in the specific matrix, but now as well adjustments respect to the current conditions on the mathematical models made by the specific Modelling System, which is going to go on including new single models, at any time that a new rational hypothesis is made, and making all the necessary rational checks. So at any time that a new single hypothesis is included in the mathematical models, or any change is made in the mathematical models as a result of any rational check, any change in the mathematical models is going to demand new rational adjustments in the mathematical projects, which are going to produce new changes on the mathematical projects.

So in the second moment, in the second period, in the second stage, in the specific Decisional System, the main reasons for changes on the mathematical projects are: the addition of new quick or normal mathematical projects which demand new adjustments in other mathematical projects, changes in the matrix demanding new adjustments in the mathematical projects, the addition of new single mathematical models based on new rational hypothesis demanding changes in the mathematical projects, changes in the mathematical models caused by changes in the matrix demanding changes in the mathematical projects.

Due to the increasing complexity of adjustments, as long as the specific Decisional System evolves from only a specific Decisional System whose mathematical projects are not linked to the mathematical models in the specific Modelling System, evolving into a specific Decisional System whose mathematical projects are necessarily, in one way or another, interconnected with the mathematical models made in the specific Modelling System. Working the specific Decisional System and the specific Modelling System as two systems completely different, but sharing some objects represented in the mathematical model, as long as the specific Modelling System works in its own rational checks, independently, the specific Decisional System must work out its own rational adjustments.

The best way to prepare the specific Decisional System for this work, is to start from the outset in the first period, when the mathematical projects are not linked to the mathematical models yet, working on how the rational adjustments work, so as to improve and enhance this technology in order to make it able to achieve, after some time of experimentation, the second moment in the second period.

The rational adjustments in the specific Decisional System are:

- First rational adjustment: once the decision gets the database of decisions, the first stage for the specific Decisional System, the specific Decisional System makes the first rational adjustment, checking any possible contradiction between the new decision and any other already included. In case of quick decisions, instead of any rational adjustment, after a quick rational check are sent to the second stage to make the mathematical projects. The adjustment could mean the elimination or modification of the new decision, elimination if the contradiction found is total, modification if it is a partial contradiction able to be fixed by modifying the decision partially.

- Second rational adjustment. In the first period: 1) once any single mathematical project from any normal decision, is included in the comprehensive virtual mathematical project, if there is any contradiction between this decision and any other already included, elimination of the new decision if it is a total contradiction, or modification if it is a partial contradiction, 2) any adjustment in the current decisions on, due to the inclusion of an extreme priority decision, which demands any change in any other project. Additionally, in the second period, any possible adjustments to the comprehensive virtual mathematical project to the comprehensive virtual model.

- Third rational adjustment. In the first period: in case of contradictions between the comprehensive virtual mathematical project and the specific matrix, adjustments are to be made in the comprehensive actual mathematical project, through the elimination or modification of any project depending on the contradiction. Additionally, in the second period, any adjustment of the comprehensive actual mathematical project to the comprehensive actual model.

- Fourth rational adjustment. In the first period: the adjustment of the prediction virtual mathematical project to any change as a consequence of an extreme decision. Additionally, in the second period, the adjustment of the prediction virtual mathematical project to any change in the prediction virtual model.

- Fifth rational adjustment. In the first period: the adjustment of the evolution virtual mathematical project to any change as a consequence of an extreme decision. Additionally, in the second period, the adjustment of the evolution virtual mathematical project to the evolution virtual model.

- Sixth rational adjustment. In the first period: the adjustment of the evolution virtual mathematical project to any change in the specific matrix, as long as every stage in the evolution is coming, contrasting for every stage real data from the specific matrix and expected values on the project, contrastation to be done in the evolution actual mathematical project. Additionally, in the second stage: the adjustment of the evolution actual mathematical project to the evolution actual model.

- Seventh rational adjustment. In the first period: the adjustment of the prediction virtual mathematical project to the real data when the predicted future point is coming, contrasting the real data and the expected values, contrastation to be done on the prediction actual mathematical project. Additionally, in the second period, the adjustment of the prediction actual mathematical project to the prediction actual model.

In the first period of the specific Decisional System, the rational adjustments are going to be focused on adjustments between mathematical projects or mathematical projects and real data from the specific matrix. In the second period, in addition to these adjustments, the adjustments are also focused on adjustments between the mathematical projects and the mathematical models.

As long as the second period is consolidated, there will be a moment in which it could be possible to re-design the specific Modelling System in order that, not only the specific Decisional System should have to adjust its mathematical projects to the mathematical models, but the specific Modelling System could adjust as well its mathematical models to the mathematical projects.

In this way, if the experimentation in the Modelling System and the Decisional System could allow that each one could make adjustments in their respective models or projects according to new changes in any model or any project, the relation between the Modelling System and Decisional System could achieve a

dialectic relation, when any change in any one of them would be able to produce a chain reaction of changes in all of them.

But keeping at any time their own purpose and characteristics, so the Modelling System and the Decisional System can develop a dialectic relation while keeping everyone its own identity. The Modelling System is that system whose purpose is to make mathematical representations of the world based on rational hypotheses, and the Decisional System is that system whose purpose is to make the mathematical project of any decision made by the Modelling System.

The possible dialectic relation, although keeping everyone of them their own identity, would be another way to, when the sixth phase is consolidated, facilitate the transit to the next phase, the seventh phase, the reason itself.

In this process, linking matrix, models, and projects, something really useful could be what I am developing under the title of "Probability and Deduction", whose main ideas I set down in the last post "The first stage in the specific Decisional System".

If any rational hypothesis is defined as an equation able to be modelled and projected, the process of deduction, modelling, and projection is, in fact, the same process, synthesised directly at any time that an equation in the deduction process becomes rational.

The only thing necessary for the automation of this process, the automation of the link between deduction, modelling, and projection, is to set up in the deduction program, in the first phase, the second stage of the Specific Artificial Intelligence for Artificial Research by Deduction, the automatic process to make such decisions.

In this way, one procedure to automatize this process is through the synthesis of the explanations given in the post "The artificial method for the scientific explanation", and in the post "The Modelling System at particular level", with the ideas behind "Probability and deduction" given in the last post "The first stage in the specific Modelling System", as one possibility to link directly deduction, models, and projects:

- Setting the data from the specific matrix in combinations

- Identifying what factors work as options and/or subjects, as constants or variables, dependent or independent, in every set.

- Drawing the cloud of points for every set.

- According to the identified factors, and considering the shape of the cloud of points, to match the set to the most suitable pure reason.

- The organisation of the pure reason could be as a sub-section system. Taking as example of a possible distribution of pure reason that one given in the post “The artificial method for the scientific explanation”, if for every possible combination of factors as subjects and/or options, as constants or variables, dependent or independent, there is a sub-section for every possibility, one sub-section for every possible empirical equation for N factors with different combination of powers, trigonometrical values, functions, etc. for every factor in the equation, so for every possible combination of factors the pure reason can set up different types of straight lines or curves.

- In this case, the attribution of what pure reason corresponds to the empirical cloud of points could be as easy as comparing what type of line (straight or curve) in the pure reason, fits much better with the cloud of points, comprehending a rational margin of error for every point in the line, as the maximum rational distance allowed between the upper and lower limits of error (limits of that constant margin of error chosen for every point in the line) in each point in the line.

- Once it has been identified what line (straight or curve), within a margin of error, in the pure reason fits with the clouds of points, it is time to set down the empirical equation, translating the factors in the set as factors in the chosen pure reason on the list of pure reason: the substitution of the analytic factors in the pure equation (the pure reason) for the factors identified in the set of data (the synthetic world, the reality, empirical factors), to set down the empirical (synthetic) equation, as empirical hypothesis. In short: taking the analytical structure of that pure equation as the most suitable for the empirical cloud of points, the analytical factors are taken out, replacing them with the

new empirical factors, having, as a result, the empirical equation, the empirical hypothesis.

- Once the empirical hypothesis is set down, the empirical probability associated with this empirical hypothesis is: the number of points in the cloud of points comprehended (between the upper and lower limit for every point) by this equation, divided by the total number of points in the cloud of points.

- If the empirical probability associated with the empirical hypothesis is equal to or greater than a critical reason, the empirical hypothesis becomes rational, and as rational hypothesis is stored in the rational truth, in order to make the Modelling System the mathematical models.

Because the rational hypothesis to model in the Modelling System is the same line made previously in the rational contrastation, practically, the Modelling System does not need to make any single model; directly, the same line made in the rational contrastation could be sent to the comprehensive model.

If, through Probability and Deduction, it were possible to make rational hypotheses able to be added directly to the comprehensive model, there could be a moment in which the deduction process could be done directly on the comprehensive model.

The synthesis of matrix, models and projects, could be possible, although I think that in order to build very solid foundations for the Global Artificial Intelligence, to synthesise all these processes such as deduction, models, and projects, in only one, is better to wait for the completion of the sixth phases of the Global Artificial Intelligence.

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